

**REMARKS**

1. In response to the Office Action mailed March 22, 2006, Applicant respectfully requests reconsideration. Claims 1-36 were previously presented for examination in this application. By the foregoing Amendment, claims 37 and 38 have been added, claims 20 and 29 have been canceled, and claims 1-5, 7-13, 19, 21-28, 30 and 31 have been amended. Thus, upon entry of this paper, thirty-six claims will be pending in this application. Of these thirty-six claims, two (2) claims (claims 1 and 19) are independent. These amendments are believed not to introduce new matter and their entry is respectfully requested. Based upon the above Amendment and following Remarks, Applicant respectfully requests that all outstanding objections and rejections, be reconsidered, and that they be withdrawn.

2. Support for newly the amendments to claims 1 and 19 is found in the specification in paragraphs 48, 49, and 58, as well as elsewhere through the specification, drawings and originally filed claims. Support for newly added claim 37 is found in the specification in paragraph 69, as well as elsewhere through the specification, drawings and originally filed claims. Support for newly added claims 38 is found in the specification in paragraph 58, as well as elsewhere through the specification, drawings and originally filed claims.

***Art of Record***

3. Applicant acknowledges receipt of form PTO-892 identifying additional references made of record by the Examiner.

***Drawings***

4. Applicant thanks the Examiner for indicating that the drawings are acceptable.

***Claim Rejections – 35 U.S.C. § 112 First Paragraph***

5. Claims 12 and 30 are rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. This rejection is rendered moot by the amendments to claims 12 and 30.

***Claim Rejections – 35 U.S.C. § 102(b)***

5. Independent claims 1 and 19, and dependent claims 2-11, 16, 18-29 and 34 are rejected

under 35 U.S.C. § 102(b) as anticipated by US Patent No. 6,343,346 to Olnowich (hereinafter "Olnowich"). Applicant notes that Olnowich is not prior art under Section 102(b) since Applicant claims the priority of an earlier application filed on September 22, 2002. This rejection is respectfully traversed due to the amendments to the claims.

6. Independent claim 1, as amended, recites a computer system comprising in part "a *parcel for moving said threadlet* from said at least one first memory to said at least one second memory to execute said threadlet by said at least one second node when said at least one second memory is local to said threadlet." (See, Applicant's Claim 1, above; emphasis added.). Independent claim 19, as amended, recites a method comprising in part "*moving said threadlet* to a second node when said target memory required to execute said program at said second node is local to said threadlet." (See, Applicant's Claim 19, above; emphasis added.).

7. To rejection a claim under Section 102, a single prior art reference must teach every element of the claim. (See, MPEP § 2131.). The Office Action has not cited any portion of Olnowich that teaches a parcel for moving the threadlet as claimed by claim 1 or moving the threadlet as claimed by claim 19. Instead the Office Action on page 3 alleges that Olnowich shows sending information/messages, by citing the following passage:

The memory controller also generates a *read request message* to the network adapter at the node having the memory address being accessed. This *read request message* is sent over the network to the node containing the addressed memory location, which accesses the data at the remote memory and returns it over the network to the requesting node.

(See, Olnowich, Col. 7, lines 51-57; emphasis added.). In Olnowich only a read request message is sent. (See, Olnowich, Col. 9, lines 2-13; Col. 20, lines 46-62.). A read request message of Olnowich is not the same a threadlet, which Applicant defines as "a thread that is aware of when the thread is local to an accessible memory location." (See, Applicant's specification, para. 23.). Applicant identifies systems using the read request message as part of the conventional computers. (See, Applicant's specification, para. 50.). A read request message, according to Olnowich, accesses remote data and returns the data to the node executing the thread. (See, Olnowich, Col. 9, lines 2-13.). During the time required to access the data, the node suspends thread. (See, Olnowich, Col. 9, lines 2-13.). As claimed by

independent claim 1 and 19, the threadlet is moved to the memory containing the data required by the threadlet. Olnowich clearly fails to teach this element and the Office Action has not cited any reference for teaching this element. Therefore, Office Action failed to provide a reference that teaches every element of independent claims 1 and 19, and claims 1 and 19 are patentable over Olnowich and should be allowed.

***Claim Rejections – 35 U.S.C. § 103(a)***

8. Dependent claims 15, 17, 18, 33, 35 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Olnowich in view of Sterling, et al., *Gilgamesh: A Multithreaded Processor-in memory Architecture for Petaflops Computing*, Proceedings of the 2002 ACM/IEEE conference on Supercomputing, Baltimore, MD (Nov. 21 2002) pages 1-23 (Sterling). This rejection is respectfully traversed since Sterling is not available as a reference under any part of Section 102.

9. To use a reference in a Section 103(a) rejection, the reference must qualify as prior art under Section 102. (*See*, MPEP § 2141.01.). The PTO-892 lists Sterling as being published in 2000. However, this is not possible because a number of citations of Sterling refer to documents published after 2000. In particular Sterling cites documents published in 2001 and 2002, namely citation numbers 2, 13, 18, 38 and 39. The latest reference is to a document published in October 2002. None of these citations indicate that the reference is “in publication.” Applicant has found the same article, authored by the same individuals and presented at the Proceedings of the 2002 ACM/IEEE conference on Supercomputing in Baltimore, Maryland on November 21, 2002. (*See*, enclosures on the 2002 SC Conference.). Therefore, the reference to Sterling as being published in 2000 is incorrect and Sterling is not available as a reference under Section 102, since Applicant filed an earlier application on September 22, 2002.

10. The Office Action admits that “Olnowich does not disclose the first nodes in PIM-enhanced memory chip or set of PIM enhanced chips interconnected by a communication network.” (*See*, Office Action, page 6.). The Office Action fails to cited any reference to teaching this admitted deficient element of Olnowich, due to the inability to use Sterling as a reference. A *prima facie* case of obviousness cannot be established without showing that every element of the claim is disclosed in the prior art references, either alone or in

combination. Therefore, the rejection of dependent claims 15, 17, 18, 33 and 34 is improper and should be withdrawn.

***Dependent Claims***

11. The dependent claims incorporate all of the subject matter of their respective independent claims and add additional subject matter which makes them a fortiori and independently patentable over the art of record. Accordingly, Applicant respectfully requests that the outstanding rejections of the dependent claims be reconsidered and withdrawn.

***Conclusion***

12. In view of the foregoing, it is respectfully submitted that this application is in condition for allowance and favorable action is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael G. Verga', is written over a horizontal line.

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June 30, 2006